Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended)  A medical imaging system comprising: acquisition means (2)2 intended to acquire a volume of 3D digital data (3DV)3DV comprising at least one object of interest (1)1, means (4)4 for segmenting a region of interest comprising said object of interest (1)1 within said volume (3DV)3DV, means (3)3 for displaying a 2D representation (2DR)2DR of said volume (3DV)3DV and said segmented region of interest (RS)RS, means (5)5 for calculating a sub-regions map (CSR₁, CSR) CSR₁, CSR within said segmented region, correction means (6)6 intended to exclude sub-regions from said region of interest by means of said sub-regions map (CSR₁, CSR) CSR₁, CSR.

2. (Currently Amended) A medical imaging system as claimed in Claim 1, characterized in that said means (5)5 for calculating a sub-regions map comprise sub-means (11)11 for calculating watersheds intended to form a first sub-regions map (CSR₁) CSR₁ within the segmented region (RS)RS.

3. (Currently Amended) A medical imaging system as claimed in Claim 2, characterized in that said means (5)5 for calculating a sub-regions map comprise sub-means (10)10 for calculating a map of distances (CD)CD, said sub-means (11)11 for calculating watersheds being intended to form the first sub-regions map (CSR₁) CSR₁ from said map of distances (CD)CD.

4. (Currently Amended) A medical imaging system as claimed in Claim 2, characterized in that said means for calculating a sub-regions map (5)5 comprise merging sub-means (12)12 intended to merge sub-regions of the first map (CSR₁) CSR₁ in order to form a second sub-regions map (CSR)CSR.

5. (Currently Amended) A medical imaging system as claimed in Claim 1, characterized in that it comprises control means (7)7 enabling a user to select the sub-regions to be excluded.

6. (Original) A medical imaging system as claimed in Claim 1, characterized in that said system is able to update said 2D representation in order to take into account the effects of the correction means.

7. (Currently Amended) A medical imaging system as claimed in Claim 1, comprising labeling means ~~(8)~~8 for labeling the sub-regions map ~~(CSR₁, CSR)~~ $CSR_i$, CSR of the segmented region of interest ~~(RS)~~RS.

8. (Currently Amended) A device for correcting a segmented region ~~(RS)~~RS, intended to be integrated in a medical imaging system intended to acquire a volume of data and to segment a region of interest around an object of interest ~~(1)~~1 within said volume, said device comprising: means ~~(5)~~5 for calculating a sub-regions map ~~(CSR₁, CSR)~~ $CSR_i$, CSR within the segmented region ~~(RS)~~RS, collection means ~~(6)~~6 intended to exclude sub-regions of said region of interest ~~(RS)~~RS by means of said sub-regions map.

9. (Currently Amended) A medical imaging apparatus comprising: means ~~(22)~~22 for forming a volume of digital data representing an environment including an object of interest ~~(1)~~1, a medical imaging system ~~(20)~~20 as claimed in Claim 1.

10. (Currently Amended) A method of correcting a segmented region of interest comprising: a step of calculating a regions map ~~(CSR₁, CSR)~~ $CSR_i$, CSR within the segmented region ~~(RS)~~RS, a correction step intended to exclude sub-regions of the segmented region ~~(RS)~~RS by means of the sub-regions map ~~(CSR₁, CSR)~~ $CSR_i$, CSR.

11. (Original) A computer program product comprising a set of instructions which, when they are loaded into a circuit, causes the latter to implement the method as claimed in Claim 10.